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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,414	02/13/2002	Takayuki Uemura	Q67713	3977

23373 7590 06/09/2003

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037

EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,414

Applicant(s)

UEMURA, TAKAYUKI

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 5-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “**main scanning position detecting means**” must be shown or the feature canceled from **claim 2**. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 3 recites a main scanning position detecting means for detecting the position of the light beam in the main scanning direction with respect to the image recording material and for generating a beam scanning detecting signal, and the switching generating means for generating a switching signal based on said beam scanning detecting signal. However, neither the main scanning position detecting means nor the fact that the switching generating means for generating a switching signal based on said beam scanning detecting signal, is supported by the specification of the current application.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 10 recites the following limitation "said light beam is deflected by said light beam deflecting means is different from either one of said main scanning direction and said auxiliary scanning direction" (emphasis added), which leads to

a confusion since such limitation would conflict with the limitation recited in the parent claim 1, which defines the light beam deflecting means deflecting the light beam [primarily] in the main scanning direction.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP 11-1020) in view of Hosokawa (U.S. 6,348,941 B1).

Masaki et al. discloses an optical beam scanning device comprising a light beam deflecting means (AOD 69) disposed in a light path of said light beam, for deflecting said light beam a small distance in a direction different from said main scanning direction, based on a switching signal (scanning signal SD) (the switching of the AOD 69 being controlled by the scanning signal SD based on the scanning start signal SS), delay signal generating means (delay circuit 25) for generating a delay signal (DS) delayed from said switching signal by a predetermined time, light beam modulating means (AOMs 67, 68) for modulating said light beam with image information according to said delay signal, wherein the light beam is deflected the small distance in the direction different from said main scanning direction to generate a plurality of main

scanning lines on the image recording material to record a two-dimensional image thereon by exposure of the image recording material to the light beam (the deflected laser beam forming successive main scanning lines on the recording medium) (Fig. 2).

However, Masaki et al. fails to teach the delay signal being delayed from the switching signal depending on the time required for said light beam deflecting means to deflect said light beam, and the comparator for comparing the measured time determined by the measuring unit with a predetermined delay setting time.

Nevertheless, Whitney discloses a laser pattern generating system including an acousto-optic deflector (AOD 28) for deflecting a plurality of laser beams to form a two-dimensional image, where in the modulation data is provided to the acousto-optic modulator (AOM 26) with a delay to compensate for the fact that the laser beams do not scan the same location on the recording medium, some laser beams preceding others (col. 12, line 58 to col. 13, line 5) taking into account the x and y-axes positioning errors (col. 13, lines 19-54) (Figs. 4-7). Whitney further teaches a counter (106) for determining the time measured after the start of the block (via block start trigger 96), and a comparator (108), which provides an output to the modulation gate (100) to start the modulation of the laser beams when the inputs of the subtractor (92) and the counter (106) are equal.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Masaki et al. with the aforementioned teachings of Whitney. The motivation for doing so would have been to

prevent the overlap of the main scanning lines as well as to allow the alignment of the contiguous blocks of integrated pattern information.

Allowable Subject Matter

10. Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the indication of the allowability of the claimed invention, with respect to claim 5, is the inclusion of the limitation, in the combination as currently claimed, that the delay signal generating means comprises a second comparator for comparing a duty setting time relative to duty ratios of a plurality of deflected states of the light beam deflected by the light beam deflecting means, with the time measured by the measuring unit and that the delay signal switching unit switches the delay signal according to an output signal from said second comparator when said duty setting time and said measured time are in conformity with each other. The combined limitations are not found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

The primary reason for the indication of the allowability of the claimed invention, with respect to claims 6-8, is the inclusion of the limitation, in the combination as currently claimed, that the delay signal generating means comprises a first delay unit for coarsely adjusting the delay signal, and a second delay unit for finely adjusting the delay signal which has been coarsely adjusted by said first delay unit, which is not

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found taught or fairly suggested by the prior arts made of record, considered alone or in combination.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**HAI PHAM
PRIMARY EXAMINER**

June 2, 2003